

CSS

Cascading Style Sheets



The main idea:

We can customize the behaviour of the HTML Tags (e.g. adding properties – a “style”)

```
<h1>
```

```
<h1 style="color:blue;text-align:center;">
```

Inline CSS

We can also generalize:

We can customize the behaviour of all instances of a type of HTML Tag

```
<head>
```

```
<style>
```

```
h1 {
```

```
  color:blue;
```

```
  text-align:center;
```

```
}
```

```
</style>
```

```
</head>
```

Internal CSS

We can factor them out:

We can customize the behaviour of all instances of a type of HTML Tag for many files.

```
<head>
```

```
<head>
```

```
<style type="text/css">
```

```
  @import url("myStyle.css");
```

```
</style>
```

```
</head>
```

```
</head>
```

External CSS

myStyle.css

```
h1 {  
  color:blue;  
  text-align:center;  
}
```



Another syntax:

```
<head>
```

```
<link rel="stylesheet" type="text/css"  
href="myStyle.css">
```

```
</head>
```

External CSS

myStyle.css

```
h1 {  
  color:blue;  
  text-align:center;  
}
```



Achieving separation between content and presentation

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN">
<HTML>
  <HEAD>
    <TITLE>Hello World</TITLE>
  </HEAD>
  <BODY>
    <H1>Hello World!</H1>
    <p>Usiamo i CSS</p>
  </BODY>
</HTML>
```

hello.html

Hello World!
Usiamo i CSS

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN">
<HTML>
  <HEAD>
    <TITLE>Hello World con CSS</TITLE>
    <LINK rel="stylesheet" href="hello.css" type="text/css">
  </HEAD>
  <BODY>
    <H1>Hello World!</H1>
    <p>Usiamo i CSS</p>
  </BODY>
</HTML>
```

hello.html

```
BODY { color: red }
H1 { color: blue }
```

hello.css

Hello World!
Usiamo i CSS

Da <http://www-db.deis.unibo.it>



The goal

CSS Zen Garden

The Beauty of CSS Design



A demonstration of what can be accomplished through CSS-based design. Select any style sheet from the list to load it into this page. Download the example HTML file and CSS file.

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, broken CSS support, and abandoned browsers.

We must clear the mind of the past. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C, WaSP, and the major browser creators.

The CSS Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with clarity. Learn to use the time-honored techniques in new and invigorating fashion. Become one with the web.

THE ROAD TO ENLIGHTENMENT

Download the example HTML file and CSS file.

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So What is This About

There is a continuing need to show the power of CSS. The Zen Garden aims to excite, inspire, and encourage participation. To begin, view some of the existing designs in the list. Clicking on any one will load the style sheet into this very page. The HTML remains the same, the only thing that has changed is the external CSS file. Yes, really.

CSS allows complete and total control over the style of a hypertext document. The only way this can be illustrated is by demonstrating what it can truly be, once the reins are placed in the hands of those who create beauty from structure. Designers and coders alike have contributed to the beauty of the web; we can always push further.

Participation

Strong visual design has always been our focus. You are modifying this page, so strong CSS skills are necessary too, but the example files are commented well enough that even CSS novices can use them as starting points. Please see the CSS Resource Guide for advanced tutorials and tips on working with CSS.



CSS Zen Garden

A demonstration of what can be accomplished visually through CSS-based design. Select any stylesheet from the list to load it into this page.

Download the example HTML file

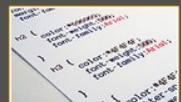


The Road to Enlightenment

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Select a Design

- Fountain Kiss by Jeremy Carlson
- A Robot Named Jimmy by melmada
- Verde Moderna by Dave Shea
- Under the Seal by Eric Stoltz
- Make 'em Proud by Michael McAdhoo and Scotty Reiffnyder
- Orchid Beauty by Kevin Adkins
- Oceanscape by Justin Gray
- CSS Co., Ltd. by Benjamin Klamm

Archives

- Next Designs
- View All Designs

Resources

- View This Design's CSS
- CSS Resources
- FAQ
- Submit a Design
- Translations

BENEFITS

Why participate? For recognition, inspiration, and a resource we can all refer to showing people how amazing CSS really can be. This site serves as equal parts inspiration for those working on the web today, learning tool for those who will be tomorrow, and gallery of future techniques we can all look forward to.

REQUIREMENTS

Where possible, we would like to see mostly CSS 1 & 2 usage. CSS 3 & 4 should be limited to widely-supported elements only, or strong fallbacks should be provided. The CSS Zen Garden is about functional, practical CSS and not the latest bleeding-edge tricks viewable by 2% of the browsing public. The only real requirement we have is that your CSS validates.

Luckily, designing this way shows how well various browsers have implemented CSS by now. When sticking to the guidelines you should see fairly consistent results across most modern browsers. Due to the sheer number of user agents on the web these days — especially when you factor in mobile — pixel-perfect layouts may not be possible across every platform. That's okay, but do test in as many as you can. Your design should work in at least IE9+ and the latest Chrome, Firefox, iOS and Android browsers (run by over 90% of the population).

We ask that you submit original artwork. Please respect copyright laws. Please keep objectionable material to a minimum, and try to incorporate unique and interesting visual themes to your work. We're well past the point of needing another garden-related design.

This is a learning exercise as well as a demonstration. You retain full copyright on your graphics (with limited exceptions, see submission guidelines), but we ask you release your CSS under a Creative Commons license identical to the one on this site so that others may learn from your work.

CSS ZEN GARDEN

The Beauty of CSS Design

A DEMONSTRATION OF WHAT CAN BE ACCOMPLISHED VISUALLY THROUGH CSS-BASED DESIGN. SELECT ANY STYLE SHEET FROM THE LIST TO LOAD IT INTO THIS PAGE.

SELECT A DESIGN

- Fountain Kiss by Jeremy Carlson
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Download the sample HTML and CSS to work on a copy locally. Once you have completed your masterpiece (and please, don't submit half-finished work) upload your CSS file to a web server under your control. Send us a link to an archive of that file and all associated assets, and if we choose to use it, we will download it and place it on our server.

Next Designs >
View All Designs

- View This Design's CSS
- CSS Resources
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- Translations

SEE <http://www.csszengarden.com>



The goal: a simpler example

See https://www.w3schools.com/css/css_intro.asp



Style: local definition (inline)

```
<html><head>  
</head><body>
```

```
<h1 style="color:blue;">primo capitolo</h1>
```

nel mezzo del cammin di nostra vita

```
<h1 style="color:blue;">secondo capitolo</h1>
```

mi ritrovai per una selva oscura

```
<h1 style="color:blue;">terzo capitolo</h1>
```

che la diritta via m'era smarrita

```
</body></html>
```



Style: definition of a page style (internal CSS)

```
<html><head>  
<style>  
h1 {color:blue;}  
</style>  
</head><body>  
<h1>primo capitolo</h1>  
nel mezzo del cammin di nostra vita  
<h1>secondo capitolo</h1>  
mi ritrovai per una selva oscura  
<h1>terzo capitolo</h1>  
che la diritta via m'era smarrita  
</body></html>
```



Style: definition of a shared style (external CSS)

```
<html>
<head>
<link rel="StyleSheet" type="text/CSS" href="../common/lodeStyles.css" >
</head>
<body>
<h1>primo capitolo</h1>
nel mezzo del cammin di nostra vita
<h1>secondo capitolo</h1>
mi ritrovai per una selva oscura
<h1>terzo capitolo</h1>
che la diritta via m'era smarrita
</body></html>
```



CSS

Cascading Style Sheets

Some Formatting Elements

Length units

ABSOLUTE LENGTH

International System

cm *centimetrs*

mm *millimetr*s

anglosaxon units

in *inch*

pt *point: 1/72 inch*

pc *pica: 12 point = 1/6 inch*

System dependent:

px *pixel*

RELATIVE LENGTH:

em *height of element font*

ex *extended height of element
font*



Formatting elements

color:*color*

background-color:*color*

background-image:*uri*

font-family:name

font-size:xx-small|x-small|small|medium|large|x-large|xx-large|
larger|smaller|*absoluteSize*|*relativeSize*|*percentage*|*length*

font-style:normal|italic

font-weight:bold|bolder|lighter|normal|100|200|...|800|900



Colors


- Absolute colors


Also using hex
#RRGGBB


Or

`rgb(rosso,verde,blu)`


 black - nero

 silver - argento

 gray - grigio

 white - bianco

 maroon - marrone


 red - rosso

 purple - viola


 fuchsia - fucsia

 green - verde

 lime - verde chiaro


 olive - oliva

 yellow - giallo

 navy - blu scuro


 blue - blu

 teal - verde acqua scuro


 aqua - verde acqua

 background - il colore di sfondo del desktop

 buttonFace - il colore di sfondo dei pulsanti

 buttonText - testo dei pulsanti

 captionText - testo delle etichette

 grayText - testo disabilitato

System properties colors





RGBA AND OPACITY

```
rgba: (200, 30 30, 0.2);  
opacity: 0.5;
```

GRADIENTS

```
linear-gradient(direction, color-stop1, color-stop2, ...);
```



Formatting elements

line-height:normal|*length*|*percentage*

text-align:left|center|right|justify

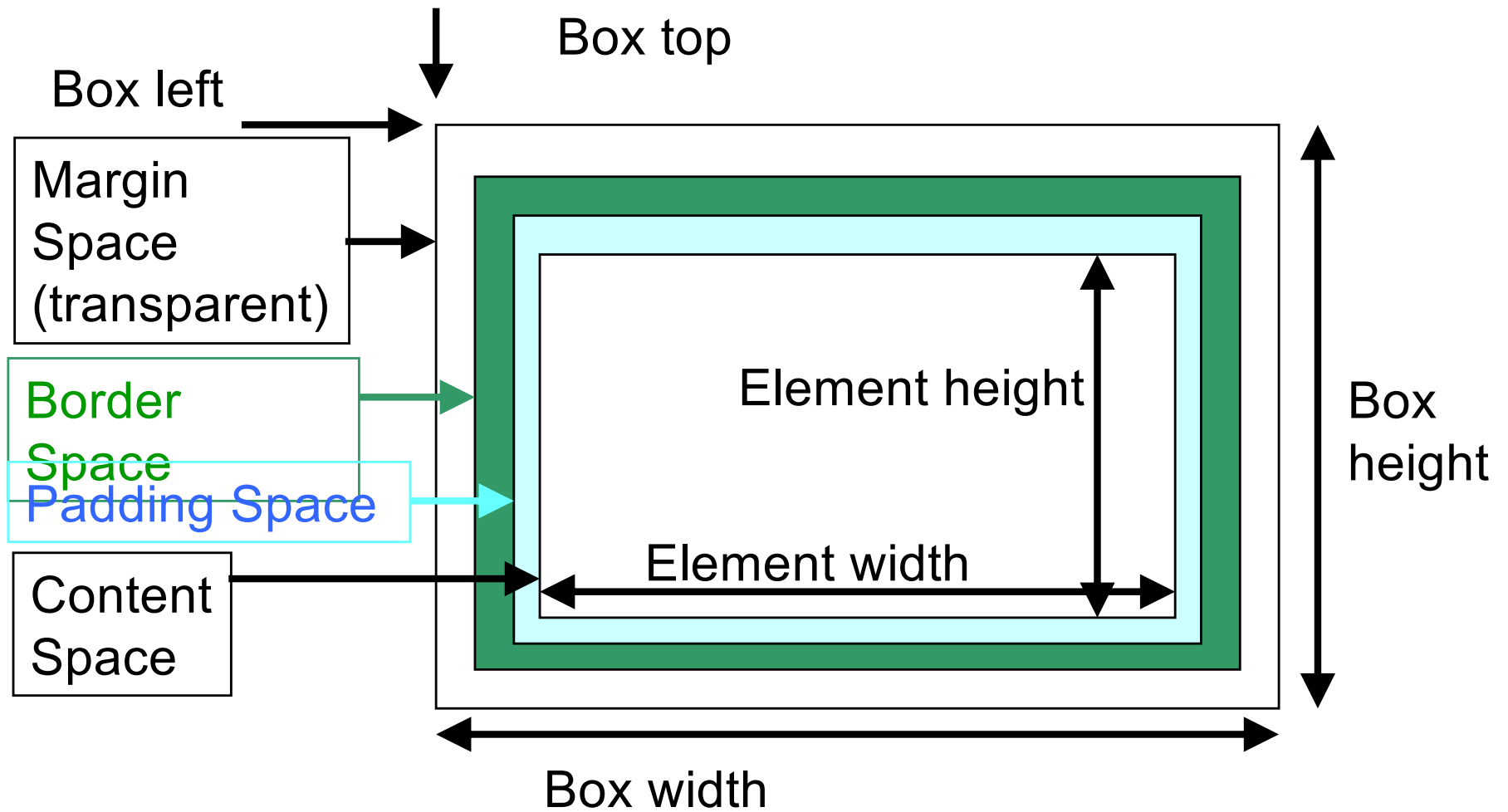
text-decoration:blink|line-through|overline|underline

text-indent:*length*|*percentage*

text-transform:none|capitalize|uppercase|lowercase



Formatting elements: the Box Model



Formatting elements

`border-bottom-width, border-top-width,
border-right-width, border-left-width: thin|medium|thick|n`

`border-color: color`

`border-style: double|groove|none|inset|outset|ridge|solid`

`border-width: thin|medium|thick|length`

`margin: thickness`

`margin-bottom, margin-left, margin-right, margin-top : thickness`

`padding : thickness`

`padding-bottom, padding-left, padding-right, padding-top : thickness`



Formatting elements – lists ()

```
ol {  
  line-style:decimal|lower-alpha|lower-roman|  
             upper-alpha|upper-roman  
}
```

```
ul {  
  line-style:circle|disc|square  
}
```

```
ul {  
  list-style-image: url('triangle.gif');  
}
```



Formatting elements lists ()

- Coffee
- Tea
- Coca Cola

```
ol {  
  background: #ff9999;  
  padding: 20px;  
}  
li {  
  background: #ffe5e5;  
  padding: 5px;  
  margin-left: 35px;  
}
```

```
ul {  
  background: #3399ff;  
  padding: 20px;  
}  
li {  
  background: #cce5ff;  
  margin: 5px;  
}
```

1. Coffee
2. Tea
3. Coca Cola

CSS

Cascading Style Sheets

Selectors

Basic selectors

- Simple:

```
p { text-align: center; color: red; }
```

Usage: `<p>`

- Class:

```
.red {color: red; }
```

Usage: `<p class="red">` `<h1 class="red">`

- Universal:

```
{color: red; }
```

Usage: `<p>` `<h1>`

"

- #id:

```
#red {color: red; }
```

Usage: `<p id="red">` `<h1 id="red">`



Combinator selectors

- Simple + class:

```
p.red { text-align: center; color: red; }
```

Usage: `<p class="red">` NOT: `<p>`, `<h1.red>`

- Grouping:

```
div, p {color: red; }
```

Usage: `<p>`, `<div>`

- Descendant:

```
div p {color: red; }
```

Usage: `<div><p>`, `<div><i><p>` NOT: `<p>`, `<div>`

- Child:

```
div > p {color: red; }
```

Usage: `<div><p>` NOT: `<div><p>` `<p>`, `<div>`

View also https://www.w3schools.com/css/css_combinators.asp



Example – again on lists ()

```
ol {  
  background: #ff9999;  
  padding: 20px;  
}  
ol li {  
  background: #ffe5e5;  
  padding: 5px;  
  margin-left: 35px;  
}
```

```
ul {  
  background: #3399ff;  
  padding: 20px;  
}  
ul li {  
  background: #cce5ff;  
  margin: 5px;
```



Combinator selectors

- **Adjacent sibling:**

```
div + p { text-align: center; color: green; }
```

Usage: `<div>some text</div> <p>more text</p> <p>not this</p>`

Sibling elements must have the same parent element, and "adjacent" means "Immediately following"

- **General sibling:**

```
div ~ p { color: green; }
```

Usage: `<div>some text</div> <p>more text</p> <p>also this</p>`

all elements that are siblings of a specified element

View also https://www.w3schools.com/css/css_combinators.asp



Advanced selectors

- **Pseudo-class:**

A pseudo-class is used to define a special state of an element: mouse over, get focus, link is visited or not, is n-th child, current language is...

see: https://www.w3schools.com/css/css_pseudo_classes.asp

- **Pseudo-element:**

A CSS pseudo-element is used to style specified parts of an element: the first letter, the first line, before/after the content, selection...

see: https://www.w3schools.com/css/css_pseudo_elements.asp



Attribute selectors

```
input[type="button"] {  
  width: 120px; margin-left: 35px; display: block;  
}
```

Selector	Example	Example description
[attribute]	[target]	Selects all elements with a target attribute
[attribute=value]	[target=_blank]	Selects all elements with target="_blank"
[attribute~=value]	[title~=flower]	Selects all elements with a title attribute containing the word "flower"
[attribute =value]	[lang =en]	Selects all elements with a lang attribute value starting with "en"
[attribute^=value]	a[href^="https"]	Selects every <a> element whose href attribute value begins with "https"
[attribute\$=value]	a[href\$=".pdf"]	Selects every <a> element whose href attribute value ends with ".pdf"
[attribute*=value]	a[href*="w3schools"]	Selects every <a> element whose href attribute value contains the substring "w3schools"

The value has to be a whole word, either alone, like class="top", or followed by a hyphen(-), like class="top-text"!

View https://www.w3schools.com/css/css_attribute_selectors.asp



CSS

Cascading Style Sheets

Cascading and positioning

Styles cascade

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>CSS-P demo</title>
    <style>
      a {color:red;}
      p {font-size:24pt;color:green;border-width:thick;
        border-style:ridge;border-color:red;}
      p.red {color:red}
    </style>
  </head>
  <body>
    <p class="red">Pippo</p>
    <div style="background:orange;
      <p> Pluto</p>
      <p class="red" style="font-size:12pt;
        background-color:yellow; ">Topolino</p>
    </div>
  </body>
</html>
```



The !important clause

- !important
- Wins over the other clauses



Positionable Elements – CSS/P

Type of position specification:

position:absolute|relative

Position specification:

top:*size*

left:*size*

dimension specification:

width:*size*

height:*size*

Visibility specification:

visibility:hidden|inherit|show



Positionable Elements – CSS/P

Clip: `rect(top right bottom left)`

Clip an element (leaving it in place)

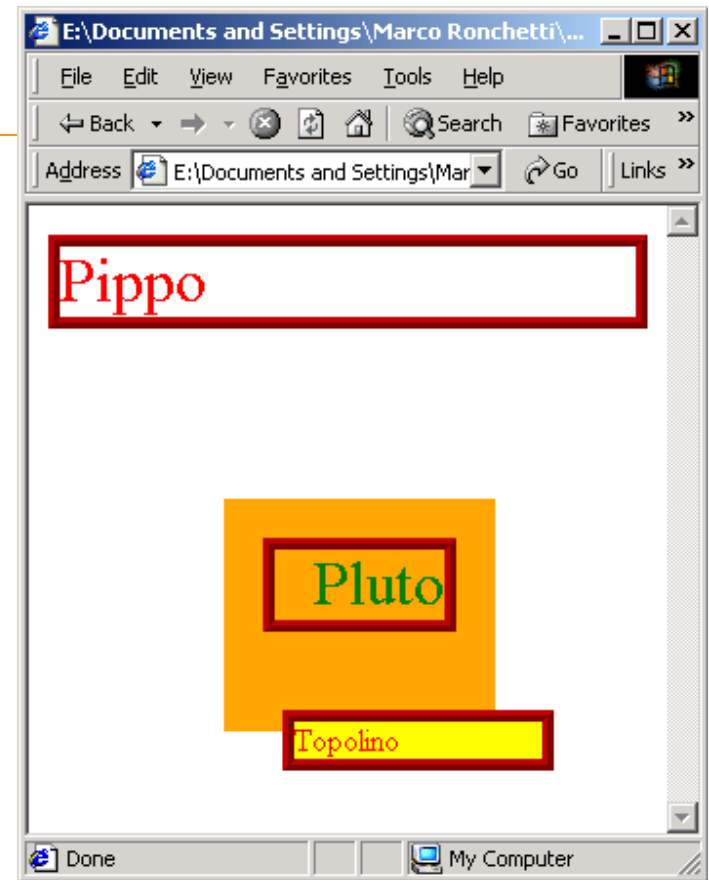
z-index: `n`

Decides the superposition ranking



Positioning examples: CSS-P

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>CSS-P demo</title>
    <style>
      #aposition{position:relative;left:30px;top:20px}
      a {color:red;}
      p {font-size:24pt;color:green;border-width:thick;
        border-style:ridge;border-color:red;}
      p.red {color:red}
    </style>
  </head>
  <body>
    <p class="red">Pippo</p>
    <div style="background:orange;
      position:absolute;left:100px;top:150px;">
      <p style="padding-left:20px;margin:20px;">Pluto</p>
      <span id="aposition">
        <p class="red" style="font-size:12pt;
          background-color:yellow;">Topolino</p>
      </span>
    </div>
  </body>
</html>
```



CSS

Cascading Style Sheets

Some more stuff


Font types

Font con grazie (o serif) → ABCIMN abcimn 1234 Times Roman

Font senza grazie (o sans serif) → ABCIMN abcimn 1234 Arial

Font monospaziato → ABCIMN abcimn 1234 Courier

Font calligrafico (o script) → *ABCIMN abcimn 1234 Edwardian*

Font decorativo (o fantasy) → **ABCIMN abcimn 1234 Sand** 

Example of multiple declaration:

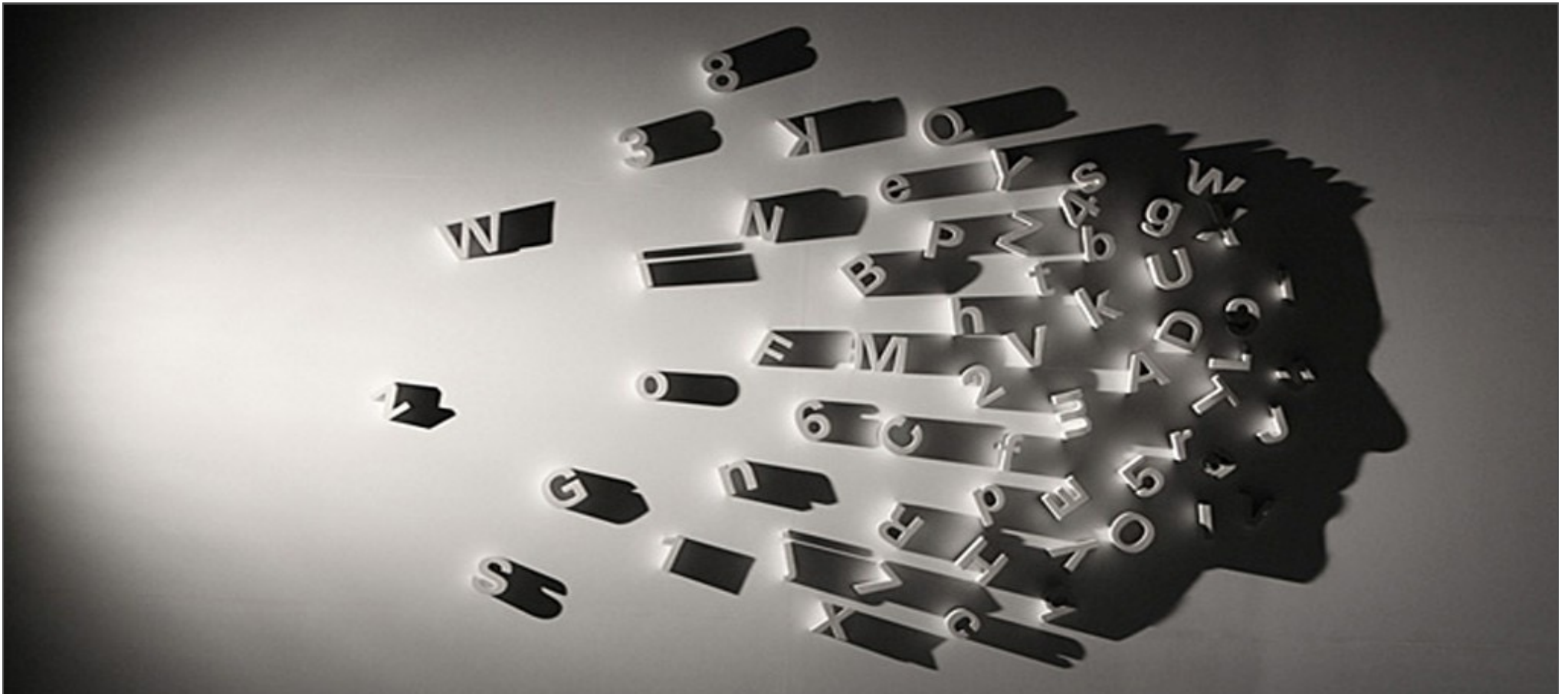
```
p {font-family: Verdana, Helvetica, sans-serif;}
```





ANY FONT YOU LIKE

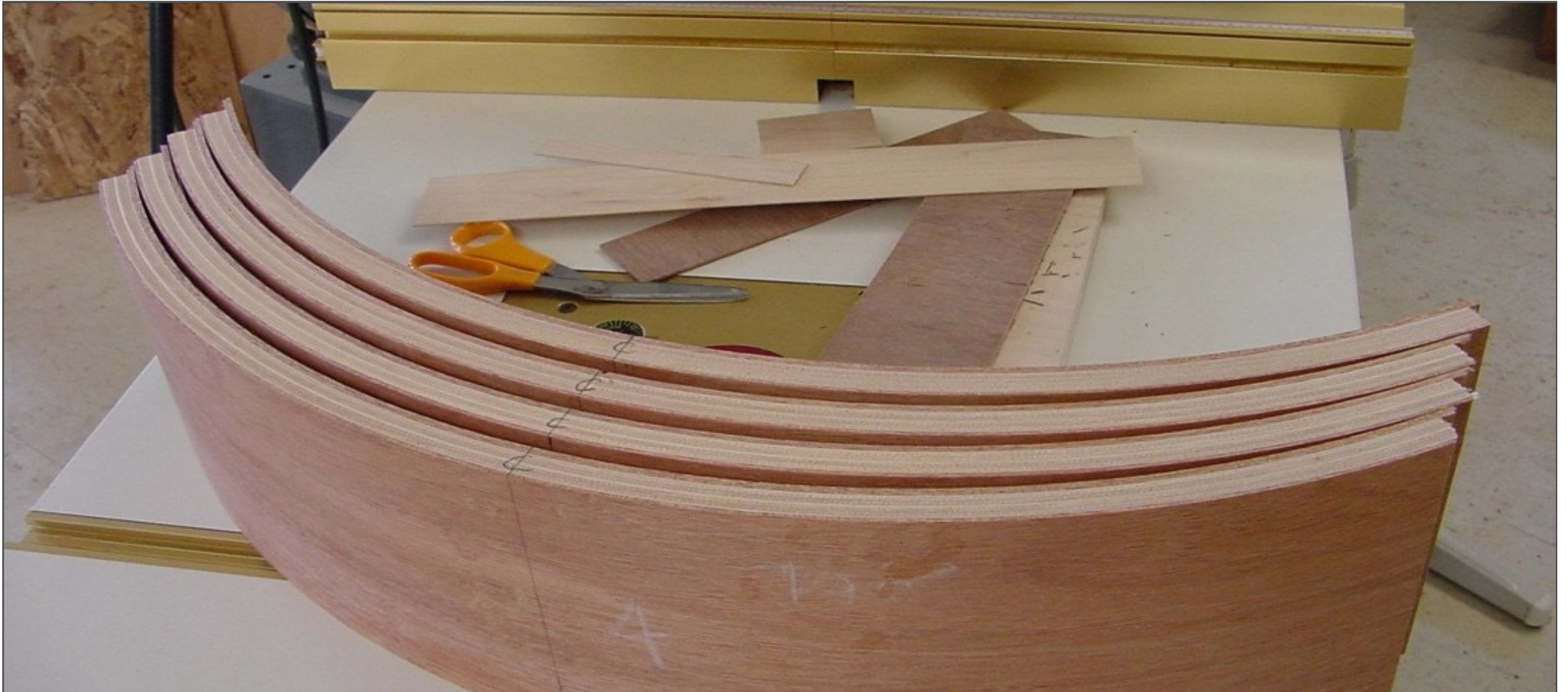
```
@fontface {  
font-family: 'Museo' ;  
src: url('/fonts/museo.otf') format ('opentype') ;
```



BOX AND TEXT SHADOW

```
box-shadow: 10px 10px 25px #ccc;
```

```
text-shadow: 10px 10px 25px #ccc;
```

BORDER RADIUS

`border-radius: 20px;`



`border-image:url(border.png) 30 stretch`



`border-image:url(border.png) 30 round`

BORDER IMAGE

`border-image: url(border.png) 30 round;5 repeat;`

see

https://www.w3schools.com/cssref/tryit.asp?filename=trycss3_js_border-image

Much more!

- Pagination
- Multiple column
- Tooltips
- (Graphic) Transformations (e.g. rotations, 2D – 3D)
- Animation

See section “CSS Advanced” in <https://www.w3schools.com/css/>



CSS

Cascading Style Sheets

Tutorial and gym

CSS Tutorial

CSS Tutorial

CSS HOME

CSS Introduction

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CSS Navigation Bar

CSS Dropdowns

CSS Image Gallery

CSS Image Sprites

CSS Attr Selectors

CSS Forms

CSS Counters

CSS Website Layout

CSS Units

CSS Specificity

<https://www.w3schools.com/css/>

